United States Department of the Interior

BUREAU OF LAND MANAGEMENT
National Information Resources Management Center
Denver Federal Center, Building 40
P.O. Box 25047
Denver, Colorado 80225-0047

In Reply Refer To:
1264 (NI-140) **P**

March 29,2002

EMS TRANSMISSION 04/01/02
Instruction Memorandum No. NI-2002-043
Expires: 09/30/2003

To: All ADs, CDs, and SDs
                Attn: Chief Information Officers and IRM Advisors

From: Director, National IRM Center

Subject: National Test Lab Operation and Use

Program Area: Information Technology (IT)

Purpose: This Instruction Memorandum documents the services offered by the National Test Laboratory (NTL). It contains information on how to request the support and use of the laboratory and its personnel.

Policy/Action: Project managers, system owners, sponsors, and other potential customers of the laboratory are hereby provided with the procedures used to gain access to the NTL facilit*y*.

Timeframe: This IM is effective upon receipt.

Budget Impact: None

Background: The BLM NTL is located at the National Computer Operations Center in Building 53 on the Denver Federal Center. This facility provides the capability to perform engineering, testing, and simulation of BLM operational IT environments. The Division of Systems Engineering (NI-140) has streamlined the documentation for requesting use of the NTL.

Manual/Handbook Sections Affected: None.

Coordination: The National Configuration Manager coordinates testing priorities and schedules for National Configuration Management (NCM) baseline requests. The NIRMC NTL

coordinates testing priorities and schedules for all other testing requests. The NTL provides the facility and needed staff support necessary to complete all tests requests.

Contacts: Questions or comments about the NTL should be directed to Michael Garratt at (303) 236-0096. Questions regarding NCM procedures and priorities may be directed to Paulette Little, National Configuration Manager, at (202) 452-0309, x3309.

Signed by: Authenticated by:
Scott MacPherson   Nancy Jones
Director, NIRMC   Staff Assistant, NI-140

Attachment
          National Test Laboratory Operation and Use (6 pp)

Distribution
HR-250, Master Directives
ST-150A, BLM Library
NI-142, Software Release Manager

National Test Laboratory
Operation and Use

Bureau of Land Management
National Information Resources Management Center
Division of Systems Engineering

Table of Contents

1.   Introduction

This document provides insight into the National Test Laboratory (NTL) operated by the National Information Resources Management Center's (NIRMC) Division of Systems Engineering. This document also gives a brief description of the laboratory and the methods of gaining NTL support. Detailed information is published on the NTL website. In addition, information about the various environments, support available, and necessary coordination for use of these facilities has been incorporated into an NTL Users' Guide and NTL Handbook.

2.   NTL Operating Philosophy

Information Technology (IT) testing at the Bureau of Land Management attempts to ensure that new systems or changes to existing systems exhibit the properties expected by the project manager, sponsor, system owner, and users. To help in that endeavor, NIRMC has created an NTL. The NTL is an *isolated* testing environment, which means that no outside systems are connected to systems within the laboratory. Tests may be conducted without fear of damaging other systems, destroying or corrupting Bureau data, or being interfered with by other systems.

Test engineers are available to help anyone wanting to use the NTL. This includes providing help in writing test plans, test descriptions, test procedures, conducting tests, analyzing results, and reporting findings.

3.   Test Environments and Support within the National Test Laboratory Facility

The NTL core infrastructure allows test lab personnel to configure testing environments to the specifications within the lab request forms and supporting documentation. Test lab personnel configure networks, computer hardware, and system software in preparation for testing activities.

3.1   National Configuration Test Environment (NCTE)

The NCTE provides the following options:

- •   Controlled testing of those systems that are a part of the National Configuration Management baseline,
- •   Controlled testing performed during upgrade of an existing Bureau or Commercial-Off-The-Shelf (COTS) system, or
- •   Predeployment testing of new Bureau systems or COTS.

The following tests are performed in the NCTE:

- Functional – Functional testing validates the developed application has been built correctly and provides all functionality as identified in the requirements documentation.

- Regression – Regression testing verifies that unmodified functions still operate after a change, e.g., an upgrade, a bug fix, or a patch, has been introduced.

- Interoperability – Interoperability testing determines whether the developed system can work in the actual operating and business environment. It is also known as operability testing.

- Performance – Performance testing determines if response time, throughput, and system availability are acceptable under both normal and peak workloads, inclusive of client, server, and network environments.

- Remedy Trouble Ticket Resolution – The test laboratory provides an isolated environment to duplicate problems for Remedy trouble ticket resolution.

3.2   Systems Engineering Test Environment (SETE)

The SETE provides necessary support for conduct of engineering studies, testing of evaluation of new technologies, and new products outside the National Configuration Management (NCM) baseline. The following tests are performed in the SETE:

- Integration – Integration testing determines whether all components of a system function together as proposed.

- Exploratory – Exploratory testing is used to determine the functionality and usability of a system as it pertains to the BLM IT environment. Exploratory testing may also be required to develop new configurations, test non-baselined technologies, and perform product evaluations where the functionality of the technology is not always known.

4.   Requesting Use of the NTL

To use the NTL, a test lab request form is required. The form may be found on the BLM internal website at http://web.blm.gov/nirmc/test_lab/test_lab_forms.htm.

4.1   National Configuration Test Environment Submission

The NCTE testing is part of the NCM process. A test lab request form and all NCM required testing documentation are to be submitted to the NCM for approval. The NCM will submit all necessary documentation to the BLM NTL for review and scheduling. The NCM, in conjunction with the BLM NTL, will determine the scheduling priorities for all NCTE requests.

4.2   Systems Engineering Test Environment Submission

The SETE testing is part of NIRMC Systems Engineering process. SETE test requests are submitted directly to the NTL for review and scheduling. At a minimum, documentation will consist of a test laboratory request, a test plan, an outline of the test description, and the test procedures. The documentation must include expected start dates, duration of tests, equipment and software needed, point of contact information, and any support needed from NTL personnel.

5.   Technical Review and Scheduling of Tests in the NCTE and SETE

The NTL staff will review both the NCTE and SETE requests. Tests will be scheduled in either environment after the test documentation has been reviewed to determine if there is adequate information to set up and configure the requested test bed. When all required information is submitted and adequate, the NTL will notify the requestor of review completion and set up a meeting to establish test schedules. The NTL will also submit any test documentation recommendations for the test.

6.   Resource Planning Meeting

A resource planning meeting is held to work out the details of roles, responsibilities, resources, and schedule dates for the NCTE or SETE. The NTL staff will conduct a pre-test validation meeting prior to the test date to ensure that test needs are unchanged.

Appendix A - Abbreviations

C
COTS   Commercial-Off-The-Shelf

N
NCM   National Configuration Management
NCTE   National Configuration Test Environment
NIRMC   National Information Resources Management Center
NTL   National Test Laboratory

S
SE   Systems Engineering
SETE   Systems Engineering Test Environment